Department of Energy
Oak Ridge Operations
Office of Environmental Management
Procedure

STARTUP AND RESTART OF OAK RIDGE RESERVATION ENVIRONMENTAL MANAGEMENT PROGRAM WORK

EM – 2.1
Revision 0

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Procedure Preparer **Date**

Approved: _____ 10/17/03
Assistant Manager for Environmental Management **Date**

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ACRONYMS

AMEM	Assistant Manager for Environmental Management
CA	Corrective Action
CAP	Corrective Action Plan
COR	Contracting Officer's Representative
DOE	U. S. Department of Energy
EM	Office of Environmental Management
FRR	Field Readiness Review
HQ	Headquarters
MCR	Minimum Core Requirement
MSA	Management Self Assessment
ORO	Oak Ridge Operations Office
ORR	Operational Readiness Review
PM	Program Manager
POA	Plan-of-Action
QAM	Quality Assurance Manager
RA	Readiness Assessment
SNR	Startup Notification Report

1.0 PURPOSE

The purpose of this procedure is to define a systematic process for verification of the readiness of U. S. Department of Energy, Oak Ridge Operations Office, Office of Environmental Management (ORO EM) program work on the Oak Ridge Reservation and surrounding areas before it is started or restarted. This procedure will specify when an Operational Readiness Review is required for startup or restart of nuclear facilities, and also provide guidance for alternative readiness verifications prior to startup or restart of other EM program work (e.g., for non-nuclear, radiological, and other industrial facilities/activities).

2.0 SCOPE

This procedure describes the process that will be used by ORO EM to verify for readiness. The procedure provides guidance for: (1) identification of work startups and restarts that require a DOE ORO review, (2) selection of the type of readiness verification review required, (3) review planning, (4) review implementation, (5) review reporting, and (6) corrective action (CA) follow-up.

Three types of readiness verification reviews are addressed in this procedure:

[1] Operational Readiness Reviews (ORRs);
[2] Readiness Assessments (RAs); and
[3] Field Readiness Reviews (FRRs).

The selection of the review type depends on the specific startup or restart operation and the potential hazards associated with it.

For hazard category 1, 2, and 3 nuclear facilities, EM will fully adhere to the requirements of the latest revision of the applicable Orders for startup and restart of nuclear facilities during all such reviews.

This procedure applies to the startup or restart of all EM program work for the ORO Reservation and surrounding areas. This procedure applies to all facility categories, i.e., nuclear (including all hazard classifications, e.g., Category 1, 2, and 3 nuclear facilities), radiological, non-nuclear, and other industrial.

Although the procedure applies to all EM program work, this does not imply that all facilities/activities will require a formal readiness verification review (i.e., ORR, RA, or FRR, prior to startup or restart). The procedure defines the framework by which facilities/activities are evaluated in the planning stage to determine if a formal review is required. In some cases, the normal startup or restart verification processes of the contractor's Program Manager (PM), working with EM's PM are adequate for safe and effective startup or restart; no additional independent review is required. In other cases, formal independent contractor, and DOE reviews are mandated by the applicable directives (policies, orders, guides, manuals, standards), for example, Order DOE O 425.1C. In certain instances, an independent review may be requested by those at various levels of responsibility to provide additional assurance of safety.

3.0 REFERENCES AND DEFINITIONS

3.1 References

3.1.1 DOE, 2003, DOE Order DOE O 425.1C, *Startup and Restart of Nuclear Facilities*, Washington, D.C.

3.1.2 DOE, 2000, ORO Order ORO O 420, Chapter IX, *Startup and Restart of Nuclear Facilities,* Oak Ridge, TN

3.1.3 DOE, 2000, DOE Standard DOE-STD-3006-2000, *Planning and Conduct of Operational Readiness Reviews* (ORR), Washington, D.C.

3.1.4 DOE, 1992, DOE Order DOE O 5480.19. Chg. 1, *Conduct of Operations Requirements for DOE Facilities*, Washington, D.C.

3.1.5 DOE, 1997, DOE Standard DOE-STD-1027-92, Chg., 1, *Hazard Categorization and Safety Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports*, Washington, D.C.

3.1.6. DOE, 1998, DOE -STD-1120-98, *Integration of Environment Safety, and Health into Disposition Activities,* Washington, D.C.

3.2 Definitions

3.2.1 Corrective Actions (CAs): Measures taken to correct the direct contributing and root causes of deficiencies such that the deficiencies will no longer exist or recur.

3.2.2 FRR Plan: A structured review plan that is prepared and implemented for FRRs that identifies all of the necessary criteria and review approaches required for the determination of readiness to safely startup and operate the specified facility.

3.2.3 Facility: Those activities, processes, or operations that involve materials in such form, quantity, or concentration that a hazard potentially exists to employees, the public, or the environment.

3.2.4 Facility Type: The type of facility is one of four types:

3.2.4.1 Nuclear facility (category 1, 2, or 3): A facility which contains enough radioactive material to warrant special controls in the operation involving this material. These are defined as:

[1] Hazard Category 1: The Hazard Analysis shows the potential for significant off-site consequences if there is an unmitigated release of radioactive materials from the facility.

[2] Hazard Category 2: The Hazard Analysis shows the potential for significant on-site consequences, see DOE Standard DOE-STD-1027-92, Table 3.1 and Table A.1.

[3] Hazard Category 3: The Hazard Analysis shows the potential for only significant localized consequences see DOE-STD-1027-92, Table 3.1 and Table A.1.

3.2.4.2 Radiological facility: This is a nuclear facility that contains less than a Hazard Category 3 amount of radioactive material.

3.2.4.3 Non-nuclear facility: Those activities, processes, or operations that may involve hazardous substances in such forms or concentration that a potential danger exists to cause illness, injury, or death to personnel within the facility site boundary or members of the public.

3.2.4.4 Other Industrial: Those activities, processes, or operations that may involve hazardous substances in such forms or concentration that a potential danger exists to cause illness, injury, or death to personnel within the facility site boundary.

3.2.5 Field Readiness Review (FRR): This is an EM review that is conducted to determine readiness to startup or restart EM program work when an ORR or RA is not required and when the contractor's standard procedures for startup are not judged by DOE line management to provide an adequate verification of readiness.

3.2.6 Implementation Plan: A structured review plan that is prepared and implemented for an ORR or RA, per DOE Order DOE O 425.1C, that identifies all of the necessary criteria and review approaches required for the determination of readiness to safely startup and operate the specified facility. This plan is consistent with the breadth defined in the Plan of Action (POA) and the specific facility involved.

3.2.7 MCR Prerequisites: The specific actions that must be completed in order to satisfy a given Management Core Requirement (MCR). These provide the boundaries for the review of each MCR and allow the review team to determine the depth of review needed.

3.2.8 Management Self Assessment (MSA): An internal review conducted by the line organization for the purpose of confirming readiness.

3.2.9 Minimum Core Requirement (MCR): A fundamental area or topic of review evaluated during an ORR or RA to assess whether a facility can be operated safely. The core requirements are subdivided into core objectives to facilitate definition of the breadth of readiness reviews and to facilitate development of review criteria. Core requirements are prescribed in DOE Order DOE O 425.1C.

3.2.10 Nuclear Facility Hazard Category: The category of a nuclear facility determined by the quantity, type, and release potential of the nuclear material present. Nuclear facilities may be either Category 1, 2, 3, or radiological (less than category 3).

3.2.11 Operational Readiness Review (ORR): A disciplined, systematic, documented, performance-based examination of facilities, equipment, personnel, procedures, and management control systems to ensure that a facility will be operated safely within its approved safety envelope as defined by the facility safety basis. This is the highest level of readiness verification review.

3.2.12 Plan-of-Action (POA): The document prepared by contractor and/or DOE line management which describes the breadth and the prerequisites of the readiness verification review. POAs are required only for readiness verification reviews associated with nuclear facilities.

3.2.13 Program Work: Work on a facility that is accomplished to further the goals of the facility mission and/or program for which the facility is operated. Program work is not accomplished when a facility is shut down. It does not include work that would be required to maintain the facility in a safe shutdown condition, minimize radioactive material storage, or accomplish modifications and correct deficiencies required before program work can recommence.

3.2.14 Readiness Assessment (RA): A review that is conducted to verify readiness to startup or restart a nuclear facility when an ORR is not required and when the contractor's standard procedures for startup are not judged by DOE line management to provide adequate verification of readiness.

3.2.15 Readiness-to-Proceed Letter: The formal document submitted by the contractor which certifies the conclusion that the facility is prepared to start or resume operations.

3.2.16 Restart: The recommencement of program work. Restarts requiring an ORR can occur in operating facilities if the process to be resumed meets the requirements for an ORR. This can be true even if the same program work is ongoing in some other portion of the operating facility.

3.2.17 Startup: The initial operation of a facility or process to perform program work.

3.2.18 Startup Notification Report (SNR): A periodic report by the contractor to identify all known future EM facility starts and restarts for category 1, 2 and 3 nuclear facilities. For RAs, the SNR can serve as the mechanism for delegation of startup authority to a lower level, e.g., from the ORO Assistant Manager for Environmental Management (AMEM) to the EM or contractor PM.

3.2.19 Unplanned Shutdown: The termination of program work at a facility for any cause, such as equipment malfunction, personal error, or on-shift operator response to indications or situations that would have unsafe consequences without shutdown.

4.0 ROLES AND RESPONSIBILITIES

All applicable roles and responsibilities are defined in this procedure in conjunction with the specific actions that various EM and contractor staff have responsibility for implementing.

5.0 PROCEDURE

5.1 Determining the Need for a Startup or Restart Review and Type of Review Required

5.1.1 Appendix I: Review Needs Determination, must be used to determine whether a startup or restart review is needed. If so, the type of review must be decided. This evaluation must occur early in the planning phase of a project and should be done at least one year before the planned startup or restart date.

5.1.2 PMs: Must work with their contractor counterparts to identify the specific startups and restarts of program work that are anticipated and define the recommended review type. These needs are to be communicated to EM as follows:

Note: When PM is used without a descriptive adjective, e.g., contractor PM, it should be understood that this is a reference to the EM PM.

5.1.2.1 For non-nuclear, radiological, and other industrial facilities, this will be done during routine program meetings between the contractor and PM. The method of readiness verification should be specified and justification for the proposed course of action provided. The PM will notify the EM Quality Assurance Manager (QAM) of the planned start/restart and the recommended review type. The QAM will review requests for FRRs to ensure that another type of review is not warranted, e.g., RA or ORR. If the QAM agrees with the recommendation, the requested FRR will be added to the EM Assessment Schedule. If another type of review is warranted, the QAM will reconcile differences with the PM.

5.1.2.2 For nuclear facilities/activities that are category 3 or greater, EM requires that the contractor prepare and transmit a quarterly SNR to the EM Contracting Officer's Representative (COR). The SNR lists the planned startups and restarts for nuclear facilities/activities and the recommended type of review. The SNR has a one year planning horizon and is due to EM-1 at the end of January, April, July, and October. PMs should review this SNR for accuracy and completeness.

5.1.3.3 For EM starts/restarts, for which RAs or ORRs are recommended, the COR will forward the quarterly SNR to the QAM who will, in turn, review the SNR for adequacy and compliance with this procedure and applicable DOE and ORO Directives. The QAM will route the latest SNR to PMs for review. The QAM may elect to hold a meeting with PMs, possibly including the contractor, to discuss the SNR.

5.1.4 Non-Nuclear Facilities, Radiological Facilities, and other Industrial Facilities: The final decision on the recommended startup or restart activities, as well as the type of review required, will be made by the PMs in conjunction with the QAM. For nuclear facilities, the final decision on the type of review to be performed and the required startup authority will be reflected in the final SNR, i.e., the SNR that incorporates comments made by following the procedure in section 5.1.3, above. The final SNR will be approved by the AMEM. SNR approval by higher levels of authority will be requested, if required by DOE Directives.

5.1.5 Review Needs: Will be translated by the QAM into the EM Assessment Schedule as defined in Section 5.2.

5.2 Scheduling

5.2.1 Assessment Schedule

5.2.1.1 This will be maintained by the QAM listing planned startup or restart reviews, review dates, team leaders, team members, and functional review areas;

5.2.1.2 revised routinely by the QAM to reflect changing conditions; and

5.2.1.3 made available by the QAM to EM staff via hard copy or electronic transmission.

5.3 Conducting the Review

5.3.1 Operational Readiness Review

5.3.1.1 A four step process is implemented for the ORR including a/an:

[1] Management Self Assessment (MSA) by the contractor's line management;
[2] contractor independent ORR;
[3] EM MSA; and
[4] ORR.

Note: Whenever "ORR" is used without a descriptive adjective preceding it, this should be understood to be an EM ORR.

5.3.1.2 For EM, the QAM will coordinate the planning and implementation of ORRs.

5.3.1.3 ORRs will be planned and conducted in accordance with DOE Order DOE O 425.1C, and its ORO counterpart, ORO Order ORO O 420, Chapter IX. The guidance provided in DOE Standard DOE-STD-3006-2000 will also be used during the planning stages of ORRs. Additional clarifications and instructions to these established procedures are set out below.

[1] The QAM will work with the affected PM to ensure that all required POAs (contractor and ORO) and Readiness to Proceed Memoranda are prepared in accordance with DOE Directive requirements (a checklist that lists required elements of a POA is provided in Appendix II). The QAM will interface with the ORR Team Leader to ensure that the ORR Implementation Plan and ORR Report are prepared as required by DOE Directives.

[2] The EM MSA will be conducted by, or under the direction of the QAM. The approach and methodology for the conduct of the MSA will be defined in a MSA Plan. The MSA Plan must contain, at a minimum:

[a] verification that the contractor readiness process was adequate for verifying readiness with respect to the MCRs and MCR prerequisites, and that ORO matrix support and EM line management programs are fully functional and staffed with qualified personnel;
[b] a format for documenting findings and transmitting these to the contractor for CAs;
[c] a process for verification of MSA finding closure; and
[d] a format for documenting the overall results of the MSA.

[3] After successful completion of the contractor MSA, contractor ORR, EM MSA, and the closure of pre-start findings, the QAM will prepare a memorandum to the Startup Authority (see Table I-1, Approval Authority Determination Table, for designation of the Startup Authority) requesting that the ORR be started. The memorandum must contain a copy of the contractor Readiness to Proceed letter and specify that an EM MSA has verified contractor and EM readiness. The

memorandum may also contain a manageable list of open pre-start findings.

[4] After completion of the ORR, the QAM will work with the responsible PM to develop a written Corrective Action Plan (CAP), and to verify closure of pre-start findings. The actions that are taken to verify closure of pre-start findings will be documented in a written report. A contractor CAP for post-start findings will also be prepared and approved by the PM. Post-start CAs including those listed in the approved contractor CAP and any additional post-start EM CAs, will be tracked in the ORO Corrective Action Tracking System (ORION2).

[5] After closure of all pre-start CAs and approval of CAs for post-start findings from the ORR, the QAM will prepare a Startup Authorization memorandum for signature by the Startup Authority. The memorandum must contain a statement that the operational readiness process required by DOE Order DOE O 425.1C has been completed, that all pre-start findings have been verified closed, and that an acceptable CAP is being tracked for post-start findings.

[6] Upon signature of the Startup Authorization memorandum, the facility/activity may be started or restarted.

[7] The QAM will ensure that all required ORR documentation is filed in the QA record keeping system.

5.3.2 Readiness Assessment:

5.3.2.1 There is a three step process for implementing RAs:

[1] the contractor declares their readiness to startup or restart;
[2] the contractor conducts an independent RA; and
[3] ORO conducts an independent RA.

Note: The RA Team Leader does not have to be independent of the EM line organization, but must be independent of the PM that is responsible for the work Step (3), above, is not mandatory. Readiness verification can be completed with a contractor RA alone, as long as approval is granted in advance and the activity is reflected in the approved SNR.

5.3.2.2 The QAM will coordinate the planning and implementation of EM RAs.

5.3.2.3 EM RAs will be planned and conducted in accordance with DOE Order DOE O 425.1C and ORO Order ORO O 420, Chapter IX. The guidance provided in DOE Standard DOE-STD-3006-2000 will also be used during planning. Additional clarifications and further instructions as to these established Directives are as follows:

[1] POAs must contain the elements shown in Appendix II. A detailed analysis of the MCRs contained in DOE Order DOE O 425.1C is not required for a RA. When preparing POAs, the MCRs should be reviewed for their applicability, and then tailored to the specific startup

or restart. Simplification of the RA process is strongly encouraged through the use of checklists and other streamlined review tools. However, all review approaches must be documented in the POAs and then further defined in a RA Implementation Plan.

[2] The PM must obtain a Readiness to Proceed letter from the contractor before the EM RA can be initiated. The contractor RA letter must state that the contractor RA has been completed and that the contractor is ready to assume operation of the facility/activity under review. Upon receipt of this letter, the PM must verify DOE program management and contractor readiness. The PM must also notify the RA Team Leader that the RA can be initiated. A formal PM verification plan and report are not required; notification through email is acceptable.

[3] After completion of the EM RA, the QAM will work with the responsible PM to develop a written CAP (contractor and EM input will be required) and verify closure of all pre-start findings. The actions that are taken to verify closure of all pre-start findings will be documented. A contractor CAP for all post-start findings will also be prepared and approved by the PM. Post-start CAs, including those listed in the approved contractor CAP, and any additional post-start EM CAs, will be tracked in the ORO Corrective Action Tracking System (ORION2).

[4] After closure of all pre-start CAs and approval of CAs for post-start findings from the EM RA, the QAM will prepare a Startup Authorization memorandum for signature by the Startup Authority. This memorandum must contain a statement that the readiness process required by DOE Order DOE O 425.1C has been completed, that all pre-start findings have been verified closed, and that an acceptable CAP is being tracked for post-start findings.

[5] Upon the signature of the Startup Authorization memorandum, the facility/activity may be started or restarted.

[6] The QAM will ensure that all required EM RA documentation is filed in the record keeping system.

5.3.3 Field Readiness Review:

5.3.3.1 The QAM will select a Team Leader for each FRR (see section 5.4 for details on qualifications).

5.3.3.2 Selection of FRR Team Members

[1] The FRR Team Leader will determine the required composition of the team based on the scope of the activity under review. Functional expertise typically required for FRRs include: safety and health, quality assurance, radiological control, conduct of operations, and

environmental compliance. In some cases, special expertise may be required in nuclear criticality safety, fire protection, emergency management, materials control and accountability, safeguards and security, etc.

[2] Once the required team composition is determined, the FRR Team Leader will solicit participation of ORO staff that has expertise in the required functional disciplines. Team members may be selected from EM, ORO matrix support, and ORO support services contractor organizations (see Section 5.4 for details on qualifications).

5.3.3.3 FRR Planning - Information Gathering

[1] FRR planning must begin as early as possible before the start or restart of the activity. Due to the aggressive nature of the EM program however, there are exceptions. The QAM, FRR Team Leader, and FRR team members must, therefore, maintain a flexible posture in dealing with review schedules.

[2] The FRR Team Leader will develop a package of information concerning the startup or restart activity, and provide copies of this package to each team member. The information package may include a project work plan, health and safety plan, QA Plan, briefing information, contractor readiness review files, etc.

[3] A FRR planning meeting should be held in which the responsible contractor PM presents an overview of the planned activity and responds to any questions or comments raised by the FRR team. This will permit the FRR team to become sufficiently knowledgeable of the activity so that the readiness criteria and the FRR Plan may be prepared.

5.3.3.4 FRR Planning - Development of the FRR Plan

[1] Following the FRR team's record review of available information, the FRR Team Leader will coordinate the development of a FRR Plan.

[2] The FRR Plan must include the following elements:

[a] objective of the FRR;
[b] background of the facility/activity which includes;

- brief description of the activity under review;
- brief description of the program organization, EM and contractor; and
- hazard classification and category of the facility/activity (e.g., radiological, high hazard non-nuclear, etc.).

[c] breadth of the FRR including functional areas to be reviewed;
[d] review approach which includes;

- startup authority;
- schedule and team composition;
- readiness criteria (see 5.3.3.4[3] below);
- prerequisites for the start of the FRR;
- conduct of the FRR, i.e., methods by which criteria will be evaluated; and
- CA verification process.

[e] process for team certification of readiness and startup authorization;
[f] requirements for the final report; and
[g] requirements for recordkeeping.

[3] The readiness criteria will be developed as an agreement between the line organization responsible for the facility/activity to be started, the QAM, and the FRR Team Leader. Adequate establishment of the readiness criteria is most crucial since this is a core of the FRR and the key to safe work startup or restart. The predefined set of criteria must be met if the activity is to be operated in a safe, efficient, and environmentally compliant manner. These criteria may be based on DOE and ORO Directives, statutory requirements, professional codes and standards, and best industry practices. The readiness criteria must be developed as early in the work planning phase as possible, since they provide the mechanism for the line organization to achieve readiness.

[4] The FRR review approach must be of sufficient depth to ensure that all readiness criteria can be verified. Acceptable review approaches include:

[a] review of the activity documentation and records;
[b] interviews with the program staff;
[c] attendance as observers in contractor internal readiness reviews;
[d] field walk downs of the planned activity area;
[e] inspection of the program equipment and facilities; and
[f] observations of drills or dry-runs of the activity.

[5] Once the FRR Plan is complete, the FRR Team Leader will provide a review copy to the responsible PM and specify a required turnaround time for the review.

[6] The FRR Team Leader will resolve any comments of the PM and will finalize the FRR Plan.

[7] Copies of the final FRR Plan will be provided to each FRR team member, the responsible EM and contractor PMs.

5.3.3.5 Conduct of the FRR

[1] The FRR will be conducted in accordance with the FRR Plan.

[2] An in-briefing meeting will be held at the onset of each FRR to discuss the logistics of the FRR, and to introduce FRR team members to their contractor counterparts.

[3] FRR team members must conduct a sufficient level of review to verify that all readiness criteria have been met, or that sufficient justification is in place for instances where a given requirement is determined not to be applicable.

[4] FRR team members must be able to document that they have verified acceptability or non-acceptability of the readiness criteria. This verification can be done by the use of rigorous log keeping to record observations and interviews, use of checklists, and reproducing the documentation that demonstrates readiness.

[5] FRR team meetings will be held, as appropriate, to ensure close communication of issues to the FRR Team Leader and to identify widespread or systematic problems that may cross several disciplinary areas. FRR team members will ensure close communication with the EM and contractor PMs during the conduct of the FRR.

[6] Deficiencies noted during the review will be communicated verbally to the contractor program staff as they are noted in order to maximize the opportunity for CA. Form 2, the Deficiency Form (a sample of this form is included in Appendix III), will be used to document findings or observations. Each Form 2 prepared identifies an issue related to a particular functional area or objective which is not met. Findings are defined as deviations from requirements, standards, or internal procedures. Observations are deviations from Best Management Practices or represent minor procedural deviations. All findings and observations must be categorized as either pre-start or post-start findings or observations.

[7] At the conclusion of the review, the FRR Team Leader will conduct an exit meeting in which a draft copy of all pre-start and post-start findings and observations will be presented. The contractor must use the information presented in this meeting as a basis for initiation or continuation of program CAs.

5.3.3.6 Verification of Corrective Actions

[1] The contractor will perform CAs for any pre-start findings and

observations and will produce an acceptable CAP for any post-start findings. The contractor will document, in writing, the actions taken to close pre-start findings and observations, and the actions that are planned to close post-start findings and observations. This CA document will be submitted to the FRR Team Leader for review and verification.

Note: The contractor may choose to close post-start findings/observations during the closure of pre-start issues.

[2] The FRR team will verify the closure of pre-start findings and observations and document this verification for each finding/observation. Any CAPs for post-start findings will also be reviewed for acceptability by the FRR team.

[3] The FRR Team Leader will prepare a tabular document that includes:

[a] all finding/observations;
[b] CAs taken by the contractor (pre-start);
[c] CAPs by the contractor (post-start); and
[d] EM actions taken to verify closure of pre-start findings and concurrence on closure.

5.3.3.7 FRR Team Certification of Readiness and Startup Authorization

[1] Following completion of the FRR and completion of the CA steps listed in section 6.3.3.6, readiness will be certified in writing by the FRR team. The format for certification of readiness included in Appendix IV.

[2] A copy of this certification of readiness and the CA verification table produced by use of section 6.3.3.6 will be delivered by the FRR Team Leader to the Startup Authority.

Note: Ideally, the FRR team should not certify readiness until all pre-start findings are verified closed. However, a small and manageable list of pre-start actions may be carried forward and readiness can be certified with a contingency that these pre-start actions are verified closed by a designated means before the project is started.

[3] Following receipt of the FRR team Certification of Readiness, the Startup Authority will prepare a letter to the contractor authorizing program startup. If any conditional restraints on startup exist (e.g., the requirement for a Facility Representative to review certain postings, etc.), these will be specified in the Startup Authorization letter.

5.3.3.8 Development of the FRR Report

Note: The FRR Report should be prepared as soon as possible after

completion of the FRR; however, it is not mandatory that it be completed before startup is authorized.

[1] The FRR Team Leader will collect all input from team members and finalize a FRR Report within two weeks of the FRR completion.

[2] The FRR Report will include the following information:

[a] objective of the review;
[b] scope of the FRR which includes;

- functional areas reviewed;
- names of FRR Team Leader and team members and their respective areas of review responsibility;
- actual dates of the review; and
- summary of review approaches that were used;

[3] results of the review, including summaries of readiness by functional review area (e.g., Personnel and Training, Procedures and Management Controls, Facilities and Equipment, pre-start and post-start findings); and conclusion.

5.4 Composition, Training, and Qualifications of ORR, RA, and FRR Teams

5.4.1 Team Composition: Startup or restart reviews will be led and performed by personnel that is not directly involved with conducting, supervising, or managing the activity being evaluated. PMs, Facility Representatives, and other ORO personnel (including support contractors), responsible for the evaluation of program activities may participate as observers or subject matter experts (SMEs). Team Leaders for ORRs must not be from offices with direct line management responsibility for the work being reviewed as required by DOE Order DOE O 425.1C. Team Leaders for RAs and FRRs can be EM staff, but must be independent of the work that they are reviewing.

5.4.2 Assessment Personnel Qualifications: Assessment personnel must be trained in assessment protocols and the specific areas they are evaluating. Qualifications will remain active if they participate in at least three assessments every two years.

5.4.3 Team Leader Qualifications: All Team Leaders for startup or restart reviews must have the personal attributes, skills, and experience to manage all phases of the assessment. To maintain team lead status, they must participate in at least three startup or restart reviews every two years. Additionally, team leads must have successfully completed a formal lead auditor training course based on a recognized standard (ISO, NQA-1, DOE Orders, ASQC).

6.0 RECORD KEEPING

The POAs, Implementation Plans, FRR plans, review reports, CAPs, and other formal assessment correspondence are considered quality records and will be retained for at least three years in the EM

Quality Assurance Record Keeping system. Thereafter, final retention will be the responsibility of the ORO Records Management Program.

7.0 APPENDICES/TABLES

7.1 Appendix I: Review Needs Determinations
7.2 Table I-1: Approval Authority Determination Table
7.3 Appendix II: Operational Readiness Review and Readiness Assessment Plan-of-Action Checklist
7.4 Appendix III: Deficiency Form 2
7.5 Appendix IV: Certification of Readiness

Appendix I

REVIEW NEEDS DETERMINATIONS

A. Startup or Restart Review Needs Determination for Category 1, 2, and 3 Nuclear Facilities

Step 1: Ensure that the action is considered a "startup" or "restart."

As defined in DOE Standard DOE-STD-3006-2000, PLANNING AND CONDUCT OF OPERATIONAL READINESS REVIEWS (ORR), a startup is "the initial operation of a facility or process to perform program work" and a restart is "the recommencement of program work." The Standard further defines Program Work as: "Work in a reactor or nonreactor nuclear facility that is accomplished to further the goals of the facility mission and/or the program for which the facility is operated. Program work is not accomplished when a facility is shutdown. Program work does not include work that would be required to maintain the facility in a safe shutdown condition, minimize radioactive materials storage, or accomplish modifications and correct deficiencies required before program work can recommence."

Step 2: Ensure that the facility/activity is a nuclear facility/activity and determine its hazard category.

NOTE: An activity conducted within a nuclear facility *does not necessarily mean that it is a nuclear activity.* One must evaluate the actual risks and quantities of nuclear materials involved in the specific activity. DOE Standard DOE-STD-1027-92, *HAZARD CATEGORIZATION AND ACCIDENT ANALYSIS TECHNIQUES FOR COMPLIANCE WITH DOE ORDER 5480.23, NUCLEAR SAFETY ANALYSIS REPORTS*, should be consulted for guidance in determining if the facility is a nuclear facility and, if so, its hazard category.

Step 3: Determine if a facility/activity is being restarted following a shutdown; if not, go to Step 4. Determine if the shutdown was caused by a safety related issue (management directed or due to operations outside of the safety basis). If the shutdown was due to normal planned cessation of operations, e.g., a maintenance outage, determine the length of time that the operation has been shut down. Go to Table I-1 to determine review need.

Step 4: Determine if the facility/activity startup or restart is a New Facility/Activity Startup or a Restart Following a Modification to an Existing Facility/Activity. This step will require some interpretation and professional judgment. If the facility/activity is a New Facility/Activity, go to Table I-1 for determination of review need and startup authority. If the startup or restart is a Modification to an Existing Facility/Activity, go to Step 5.

NOTE: The start of a new unit process or a new operation does not necessarily mean that the startup action is a New Facility/Activity startup action. If the facility being started is a new unit process that is a component or part of a larger operating system (e.g., a new treatment unit on an existing wastewater treatment system), the startup may be considered a Facility Modification. Similarly, if the startup of a new EM field activity is part of a larger existing field operation or program, it may also be an Activity Modification (e.g., a new enriched uranium removal process that is part of an existing uranium deposit removal program). However, if the facility/activity involves a new contractor, new management system, new physical components/structures, or new safety authorization basis, the facility/activity startup will likely be considered a New Facility/Activity.

Step 5: Determine if the Facility Modification is a Major or Minor modification.

Major modifications could include, but are not limited to:

(1) substantial changes that would create new and un-reviewed risks to worker/public safety;
(2) changes that would result in a substantial public or regulatory relations risk;
(3) a substantial increase in risks to worker/public safety even though the risk scenario has been previously reviewed and included in facility safety documents; and
(4) major organizational or management system changes for the operation of a nuclear facility/activity (e.g., the operation of a nuclear facility is turned over to a new contractor who chooses to have a large scale change of staffing and procedures).

Minor modifications could include, but are not limited to:

(1) changes that create no new and un-reviewed risks and that do not substantially result in an increase in risk;
(2) the addition of new processes or activities to an existing facility/activity that are covered under the existing safety authorization basis; and
(3) modifications that is similar to previous modifications that have been successfully implemented.

If the facility/activity involves a major modification, go to Table I-1 to determine review need. If the facility/activity involves a minor modification, the restart will be considered in the "Other Restarts" category.

B. Review Needs Determinations Involving Non-Nuclear, Radiological, and Other Industrial Facilities

Step 1: Ensure that the facility is NOT a nuclear facility.

Step 2: If the program involves a sufficient risk to worker/public safety, environmental protection, financial security, national security, or public relations, an ORO FRR should be performed. The level of review and documentation of the FRR can approach that of an ORO ORR and should be conducted if program risks warrant such a review, and if ORO Management approves of this review course. If the program does not warrant an ORO FRR, the program should be started following routine contractor readiness verification processes.

TABLE I-1

APPROVAL AUTHORITY DETERMINATION TABLE

	TYPE OF STARTUP OR RESTART					
Category and Classification of Facility/ Activity	**New Facility or Activity**	**Restart with Major Modifications**	**Shutdown Caused by Operations Outside Safety Basis**	**DOE Management Directed, Unplanned Shutdown**	**Restart after extended shutdown******	**Other Restarts**
Nuclear, Category 1	ORR (Secretary of Energy)*	ORR (HQ Secretarial Officer)*	ORR (Startup Authority)**	ORR (Shutdown Official)***	ORR (HQ Secretarial Officer)	RA (AMEM)*
Nuclear, Category 2	ORR (Secretary of Energy)*	ORR (HQ Secretarial Officer)*	ORR (Startup Authority)**	ORR (Shutdown Official)***	ORR (HQ Secretarial Officer)	RA (AMEM)*
Nuclear, Category 3	ORR (HQ Secretarial Officer)*	RA (AMEM)*	ORR (Startup Authority)**	ORR (Shutdown Official)***	RA (AMEM)*	RA (AMEM)*
Radiological	FRR (ORO PM)	FRR (ORO PM)	FRR (Startup Authority)**	FRR (ORO PM)	FRR (ORO PM)	FRR (ORO PM)
Non-Nuclear	FRR (ORO PM)	FRR (ORO PM)	FRR (Startup Authority)**	FRR (ORO PM)	FRR (ORO PM)*	FRR (ORO PM)
Other Industrial	FRR (ORO PM)*	FRR (ORO PM)	FRR (Startup Authority)**	FRR (ORO PM)	FRR (ORO PM)	FRR (ORO PM)

* Or designee

** Startup authority is the official designated to approve the safety basis which was violated.

*** The DOE official who is responsible for the unplanned shutdown.

**** Extended shutdown for a Category 1 Nuclear Facility is 6 months. Extended shutdown for Category 2 and 3 Nuclear Facilities is 12 months. Extended shutdown for non-nuclear, radiological, and other industrial facilities is 18 months.

Appendix II

OPERATIONAL READINESS REVIEW AND READINESS ASSESSMENT PLAN-OF-ACTION CHECKLIST

The plan-of-action should clearly delineate management responsibilities, authority, and accountability for the ORR (as specified in the DOE O 425.1C) and include the following:

ELEMENT	COMPLY (YES/NO)	JUSTIFICATION
Notice of the intent to conduct an ORR		
Identification and description of the facility		
Team Leader		
Prerequisites		
Define the breadth of the review		
Estimated start date(s) of the review		
Estimated time needed to conduct the review		

Appendix III

DEFICIENCY FORM 2

Functional Area:	Objective No.:	Finding/ Observation	Pre-start Post-start	Issue No.: Rev. No.: Date:

ISSUE:

REQUIREMENT:

REFERENCE(S):

DISCUSSION:

Inspector:_____	Approved: _____ Team Leader

Appendix IV

CERTIFICATION OF READINESS

Field Readiness Review

Subject Activity: _____

The review was conducted on_____. The scope of the review included personnel availability and training, procedures and management controls, and facilities and equipment. There are no pre-start findings that remain OPEN.

The signatures below indicate that operational readiness has been verified. It is thus recommended that startup of the subject project be APPROVED.

_____ _____
Team Member Date

_____ _____
Team Member Date

_____ _____
Team Member Date

_____ _____
Team Member Date

_____ _____
Team Leader Date